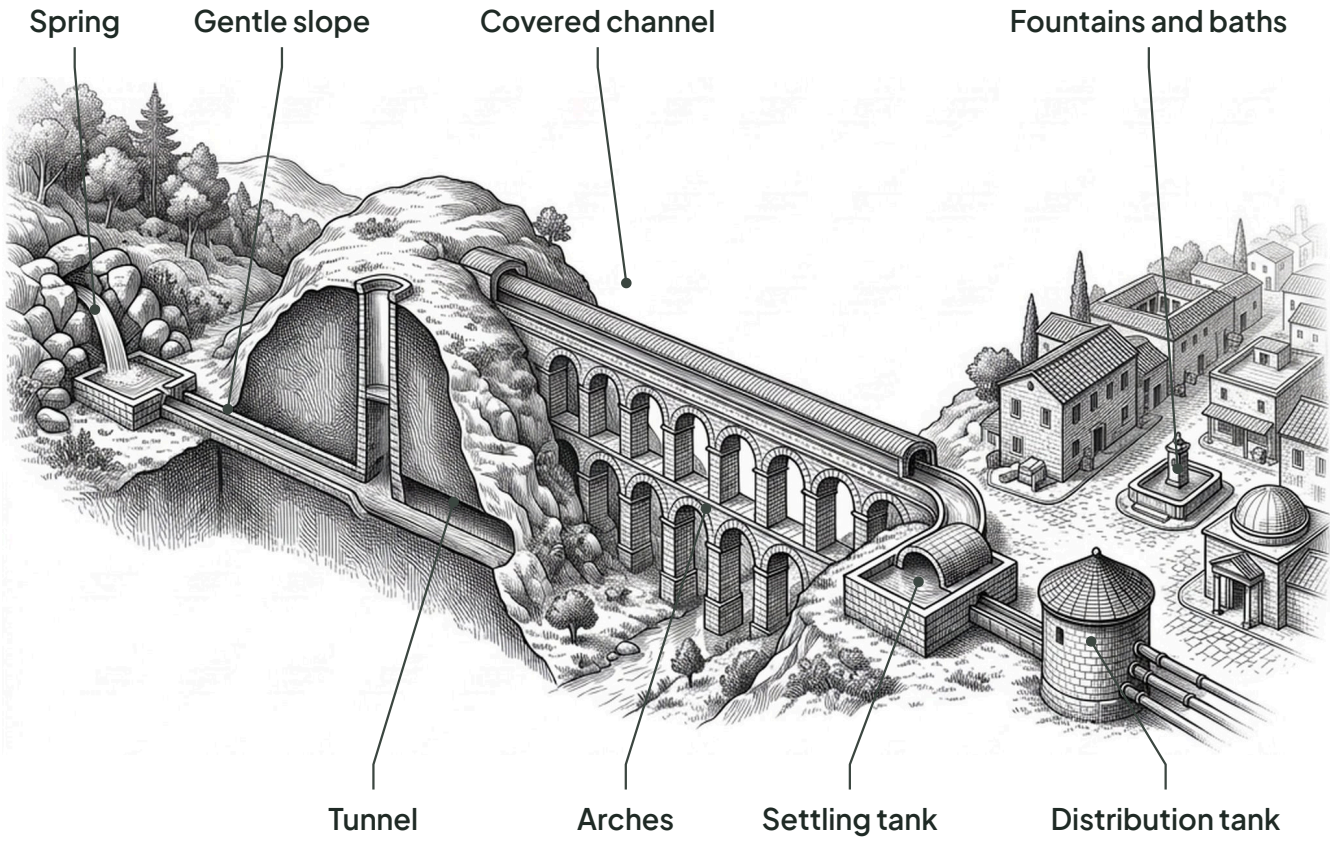
HOW A ROMAN AQUEDUCT WORKED

An aqueduct carried fresh water from springs in the hills to a city. It had no pumps: water flowed downhill by gravity the whole way, sometimes for more than 80 kilometers (50 miles). Most of the channel ran underground. Arches carried it only where it had to cross a valley.



◆ THE PARTS ◆

Spring A spring high in the hills where clean water came out of the ground. Builders chose a source higher than the city.

Gentle slope The channel dropped just a little all the way, so water flowed slowly and steadily. On the aqueduct over the Pont du Gard in Gaul it dropped only about 25 centimeters per kilometer. Builders called this the gradient.

Tunnel Most of the channel ran in tunnels and trenches underground. This protected the water and cost less than arches. Shafts let workers climb down to clean it.

Arches Where the channel crossed a valley, rows of stone arches held it up at the right height to keep the gentle slope.

Covered channel The channel itself, lined with waterproof plaster and covered with stone slabs to keep out dirt and sunlight. Its Latin name was the specus.

Settling tank A tank where the water slowed down so sand and mud sank to the bottom before the water went on.

Distribution tank A tank at the edge of the town that split the water into pipes leading to different parts of the city. Its Latin name was the castellum divisorium.

Fountains and baths Lead and clay pipes carried water to public fountains on street corners, to the public baths and to the homes of rich families who paid for it.